

ABSTRACT OF THE DISCLOSURE

2 RF spectrum and FM characteristics of an SSC clock signal is measured with a high speed
single-bit test channel that can be present in the Agilent 93000 SOC System. Such a channel can be
4 configured to measure, at up to 2.5 Gbps, the logical value of an input signal applied thereto. The SSC
clock of interest is applied to one of the high-speed single-bit test channels. A conventional FFT (Fast
6 Fourier Transform) is performed on the captured data to discover the aggregate nature of the distributed
spectral components, which can then be compared with associated specifications. The captured data is
8 applied to another algorithm to find the FM modulation profile. That algorithm involves operating on
captured digital data to perform a frequency translation operation (equivalent to heterodyning), a first
10 filtering operation, a discrete differentiation operation that includes raw phase extraction, followed by
a second filtering operation. The algorithm for finding the SSC modulation profile does not require the
12 high-speed digital channel to meet Nyquist sampling requirements.